



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-1077; Project Identifier MCAI-2021-00607-A; Amendment 39-21974; AD 2022-06-08]

RIN 2120-AA64

Airworthiness Directives; Diamond Aircraft Industries GmbH Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2017-18-10, which applied to certain Diamond Aircraft Industries GmbH (DAI) Model DA 42, DA 42 M-NG, and DA 42 NG airplanes. AD 2017-18-10 required modifying the flap control system, repetitively inspecting the flap bell crank, and replacing the flap bell crank as necessary. Since the FAA issued AD 2017-18-10, the European Union Aviation Safety Agency (EASA) superseded its mandatory continuing airworthiness information (MCAI) to correct an unsafe condition on these products. This AD retains the actions required by AD 2017-18-10, expands the applicability, and prohibits the installation of certain flap bell cranks. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria; phone: +43 2622 26700; email: office@diamond-air.at; website: <https://www.diamondaircraft.com>. You may view this service information at the Airworthiness Products Section, Operational Safety Branch, FAA, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1077.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1077; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the MCAI, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Penelope Trease, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 26805 E. 68th Avenue, Denver, CO 80249; phone: (303) 342-1094; email: penelope.trease@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2017-18-10, Amendment 39-19019 (82 FR 42029, September 6, 2017) (AD 2017-18-10). AD 2017-18-10 applied to certain serial-numbered DAI Model DA 42, DA 42 M-NG, and DA 42 NG airplanes. AD 2017-18-10 required modifying the flap control system by installing two spacers to replace a single long spacer, repetitively inspecting the flap bell crank, and replacing the flap bell crank with an improved part as necessary. The FAA issued AD 2017-18-10 to prevent failure of the flap bell crank,

which could result in reduced control of the airplane.

The NPRM published in the *Federal Register* on December 23, 2021 (86 FR 72895). The NPRM was prompted by AD 2020-0008, dated January 20, 2020 (referred to after this as “the MCAI”), issued by EASA, which is the Technical Agent for the Member States of the European Union. The MCAI states:

Occurrences were reported of finding cracks and deformation on certain flap bell cranks. Investigation results identified frequent high load conditions as the cause for these events.

This condition, if not detected and corrected, could lead to failure of the flap bell crank, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, DAI issued [Mandatory Service Bulletin] MSB 42-126 / 42NG-066 and the corresponding [Work Instructions] WI MSB 42-126 / 42NG-066 (single document), providing inspection and modification instructions. Consequently, EASA issued AD 2017-0074 to require modification of the flap control system by installing two spacers to replace a single long spacer, repetitive inspections of the flap bell crank, and, depending on findings, replacement of the flap bell crank with an improved part. That [EASA] AD also provided an optional terminating action by installing an improved flap bell crank.

Since that [EASA] AD was issued, it was determined that early ‘Revisions’ of P/N D60-2757-11-00 flap bell cranks are no longer acceptable and should be removed from service. Prompted by that determination, DAI issued the applicable MSB, as defined in this [EASA] AD, to provide the relevant instructions.

For the reason described above, this [EASA] AD retains the requirements of EASA AD 2017-0074, which is superseded, expands the applicability, and requires removal from service of certain affected parts.

You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1077.

EASA made the determination to increase the applicability during a continued operational safety review. EASA determined that the earlier versions of the bellcranks could be installed on all serial-numbered airplanes and expanded the applicability accordingly.

In the NPRM, the FAA proposed to retain the actions of AD 2017-18-10 but expand the applicability and prohibit installing a flap bell crank with part number D60-2757-11-00, up to and including revision “d.”

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data and determined that air safety requires adoption of the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

Related Service Information under 1 CFR part 51

The FAA reviewed Diamond Aircraft Mandatory Service Bulletin MSB 42-126/1 and MSB 42NG-066/1, dated November 14, 2019 (issued as one document) published with Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066, Revision 1, dated November 14, 2019 (issued as one document) attached. This service information specifies procedures for inspecting the flap bell crank for cracks, installing two spacers instead of one long spacer, and replacing early revisions of the affected flap bell crank up to and including revision "d" with an improved flap bell crank. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA also reviewed Diamond Aircraft Mandatory Service Bulletin MSB 42-126 and MSB 42NG-066, dated March 27, 2017 (issued as one document) published with Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066, dated March 27, 2017 (issued as one document) attached. This service information specifies procedures for inspecting the flap bell crank for cracks, installing

two spacers instead of one long spacer, and replacing early revisions of the affected flap bell crank.

Differences Between this AD and the MCAI

The MCAI applies to DAI Model DA 42 M airplanes, and this AD does not because it does not have an FAA type certificate.

Costs of Compliance

The FAA estimates that this AD affects 200 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Initial inspection and modification	4 work-hours x \$85 per hour = \$340	\$10	\$350	\$70,000
Repetitive inspection	2 work-hours x \$85 per hour = \$170	Not applicable	\$170 per inspection cycle	\$34,000 per inspection cycle

The FAA estimates the following costs to replace the flap bell crank based on the results of the inspection. The agency has no way of determining the number of airplanes that might need this replacement:

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Flap bell crank replacement	1 work-hour x \$85 per hour = \$85	\$475	\$560

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2017-18-10, Amendment 39-19019 (82 FR 42029, September 6, 2017); and

b. Adding the following new airworthiness directive:

2022-06-08 Diamond Aircraft Industries GmbH: Amendment 39-21974; Docket No. FAA-2021-1077; Project Identifier MCAI-2021-00607-A.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2017-18-10, Amendment 39-19019 (82 FR 42029, September 6, 2017).

(c) Applicability

This AD applies to Diamond Aircraft Industries GmbH Model DA 42, DA 42 M-NG, and DA 42 NG airplanes, all serial numbers, certificated in any category, with a flap bell crank part number (P/N) D60-2757-11-00, up to and including revision “F” installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 2700, Flight Control System.

(e) Unsafe Condition

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as cracks and deformation on certain flap bell cranks. The FAA is issuing this AD to prevent failure of the flap bell crank. The unsafe condition, if not addressed, could result in reduced control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Actions

(1) Comply with paragraph (g)(2) or (3) of this AD at whichever compliance time in paragraph (g)(1)(i) or (ii) of this AD occurs later.

(i) Before the flap bell crank accumulates 600 hours time-in-service (TIS); or

(ii) Within 100 hours TIS after the effective date of this AD or within 6 months after the effective date of this AD, whichever occurs first.

(2) For airplanes with a flap bell crank revision “e” or “F”: Inspect the flap bell crank P/N D60-2757-11-00 for cracks and deformation and modify the flap control system by installing two spacers, P/N DS BU2-10-06-0065-C, by following section III Instructions in Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066, Revision 1, dated November 14, 2019 (issued as one document) attached to Diamond Aircraft Mandatory Service Bulletin MSB 42-126/1 and MSB 42NG-066/1, dated November 14, 2019 (issued as one document).

(i) If there is a crack or any deformation, you must replace the flap bell crank with

P/N D60-2757-11-00_01, as required by step 6 of the Instructions, before further flight.

(ii) If there are no cracks and no deformation, repeat the inspection (not the modification) at intervals not to exceed 200 hours TIS until the flap bell crank is replaced with flap bell crank P/N D60-2757-11-00_01.

(3) For airplanes with a flap bell crank up to revision “d”: Replace the flap bell crank with P/N D60-2757-11-00_01 in accordance with section III Instructions in Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066, Revision 1, dated November 14, 2019 (issued as one document) attached to Diamond Aircraft Mandatory Service Bulletin MSB 42-126/1 and MSB 42NG-066/1, dated November 14, 2019 (issued as one document).

(h) Prohibited Installation

As of the effective date of this AD, do not install on any airplane a flap bell crank P/N D60-2757-11-00 with a revision up to and including revision “d.”

(i) Credit for Previous Actions

This paragraph provides credit for the actions required by paragraphs (g)(2) and (3) of this AD, if done before the effective date of this AD using Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066, dated March 27, 2017 (issued as one document) attached to Diamond Aircraft Mandatory Service Bulletin MSB 42-126 and MSB 42NG-066, dated March 27, 2017 (issued as one document).

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k)(1) of this AD and email to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Penelope Trease, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 26805 E. 68th Avenue, Denver, CO 80249; phone: (303) 342-1094; email: penelope.trease@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2020-0008, dated January 20, 2020, for more information. You may examine the EASA AD at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1077.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (1)(3) and (4) of this AD.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Diamond Aircraft Mandatory Service Bulletin MSB 42-126/1 and MSB 42NG-066/1, dated November 14, 2019 (issued as one document) published with Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066, Revision 1, dated November 14, 2019 (issued as one document) attached.

(ii) [Reserved]

(3) For service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria; phone: +43 2622 26700; email: office@diamond-air.at; website: <https://www.diamondaircraft.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the

availability of this material at NARA, email: fr.inspection@nara.gov, or go to:
<https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on March 10, 2022.

Ross Landes, Deputy Director for Regulatory Operations,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-06961 Filed: 4/1/2022 8:45 am; Publication Date: 4/4/2022]